What is claimed is:

1. A sensor element for a sensor device, the sensor element comprising:

a substrate;

a pair of proof masses that are attached to the substrate at fixed anchor points, the pair of proof masses suspended above the substrate; and

a set of drive beams positioned between the proof masses and the anchor points, the drive beams having a longitudinal body portion that extends along a first direction and a flexible spring member that extends along a second direction, the second direction being perpendicular to the first direction;

wherein the flexible spring members of the drive beams are serpentine in shape.

2. The sensor element of claim 1 further comprising at least one base beam that interconnects the set of drive beams, the base beam having a second longitudinal body portion that extends along the second direction and a second flexible spring member that extends along the first direction.

3. The sensor element of claim 2, wherein the second flexible spring member of the base beam is serpentine in shape.

4. The sensor element of claim 1, wherein the substrate is made of glass and the proof masses and drive beams are made of silicon.

5. The sensor element of claim 1, wherein the sensor element is used in sensing an externally induced angular rate in a gyroscope.

6. The sensor element of claim 1 further comprising a first pair of electrode combs that drives the proof masses in a first plane.

7. The sensor element of claim 6 further comprising a second pair of electrode combs and a pair of out-of-plane electrodes, the second pair of electrode combs capable of sensing the movement of the proof masses in the first plane, the pair of out-of-plane electrodes capable of sensing the movement of the proof masses in a second plane, the second plane being different from the first plane.

8. A sensor element for a sensor device, the sensor element comprising:

a substrate;

a pair of proof masses that are attached to the substrate at fixed anchor points, the pair of proof masses suspended above the substrate;

a set of drive beams positioned between the proof masses and the anchor points, each drive beam having a first longitudinal body portion that extends along a first direction and a first flexible spring member that extends along a second direction, the second direction being perpendicular to the first direction; and

at least one base beam that interconnects the set of drive beams, the base beam having a second longitudinal body portion that extends along the second direction and a second flexible spring member that extends along the first direction.

9. The sensor element of claim 8, wherein the first flexible spring members of the drive beams are serpentine in shape.

10. The sensor element of claim 8, wherein the second flexible spring member of the base beam is serpentine in shape.

11. The sensor element of claim 8, wherein the substrate is made of glass and the proof masses, drive beams, and base beam are made of silicon.

12. The sensor element of claim 8, wherein the sensor element is used in sensing an externally induced angular rate in a gyroscope.

13. The sensor element of claim 8 further comprising a first pair of electrode combs that drives the proof masses in a first plane.

14. The sensor element of claim 13 further comprising a second pair of electrode combs and a pair of out-of-plane electrodes, the second pair of electrode combs capable of sensing the movement of the proof masses in the first plane, the pair of out-of-plane electrodes capable of sensing the movement of the proof masses in a second plane, the second plane being different from the first plane.

15. An electronic sensor comprising:

a digital processing unit; and

a sensor element, the sensor element comprising:

a substrate;

a pair of proof masses that are attached to the substrate at fixed anchor points, the pair of proof masses suspended above the substrate;

a set of drive beams positioned between the proof masses and the anchor points, each drive beam having a first longitudinal body portion that extends along a first direction and a first flexible spring member that extends along a second direction, the second direction being perpendicular to the first direction; and

at least one base beam that interconnects the set of drive beams, the base beam having a second longitudinal body portion that extends along the second direction and a second flexible spring member that extends along the first direction.

16. The electronic sensor of claim 15, wherein the first flexible spring members of the drive beams are serpentine in shape.

17. The electronic sensor of claim 15, wherein the second flexible spring member of the base beam is serpentine in shape.

18. The electronic sensor of claim 15, wherein the substrate is made of glass and the proof masses, drive beams, and base beam are made of silicon.

19. The electronic sensor of claim 15, wherein the sensor element is used in sensing an externally induced angular rate in a gyroscope.

20. The electronic sensor of claim 15, wherein the sensor element further comprises a first pair of electrode combs that drives the proof masses in a first plane, the first pair of electrode combs receiving a signal from the digital processing unit.

21. The electronic sensor of claim 20, wherein the sensor element further comprises a second pair of electrode combs and a pair of out-of-plane electrodes, the second pair of electrode combs capable of sensing the movement of the proof masses in the first plane, the pair of out-of-plane electrodes capable of sensing the movement of the proof masses in a second plane, the second plane being different from the first plane, the second pair of electrode combs and the pair of out-of-plane electrodes further capable of sending signals to the digital processing unit.